

ABSTRACT OF THE DISCLOSURE

A method for generating a first plurality of output data values and the matrix factors used to generate an approximation to an image processing transform is disclosed. The first plurality of output data values are generated by transforming a plurality of input data values using a computer and applying a modified transform stored in a modified transformation matrix to the plurality of input data values. The plurality of input data values are stored in a generated matrix, and at least one data value in this matrix is rearranged using a permutation operation and modified by applying a linear combination of the unmodified values to the at least one data value. The modified transform is an approximation to a known transform stored in a transformation matrix that is used to generate a second plurality of output data values, the first plurality of output values approximating the second plurality of output data values. The modified transformation matrix is generated from a plurality of matrix factors that are generated by factoring the transformation matrix. The known transform and the modified transform approximating the known transform map the same integer data in the plurality of input data values to the same plurality of integer output data values.